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Map of Human IL-17 Like cDNA (SEQ ID NO:1) and Amino Acid (SEQ ID NO:2) Sequences

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Figure 2A
Map of Mouse IL-17 Like cDNA (SEQ ID NO:3) and Amino Acid
(SEQ ID NO:4) Sequences with Predicted Signal Peptide

1 **ATGTACCAAGGCTGTTCATTCTGGCAATGATCGTGGAAACCCACACCGTCAGCTTG**
M Y Q A V A F L A M I V G T H T V S L 19
58 **CGGATCCAGGAGGGCTGCAGTCACTTGCCTCAGCTGCTGCCCAAGGAAAGAGCAAGAACCC**
R I Q E G C S H L P S C C P S K E Q E P 39
11 **CGGGAGGAGTGGCTGAAGTGGAGCTCTGCATCTGTGCCCCAGAGCCTCTGAGGCCAC**
P E E W L K W S S A S V S P P E P L S H 59
31 **T H H A E S C R A S K D G P L N S R A I**
178 **ACCCACCACGGCAGAAATCCTGCAGGCCAGCAAGGATGGCATGGCCCTCAACAGCAGGGCCATC**
S P W S Y E L D R D L N R V P Q D L Y H 79
51 **TCTCCTGGAGGCTATGAAGTTGGACAGGGACTTGAATCGGGTCCCCCAGGACCTGTACCCAC**
238 **GCTCGATGCCCTGTGCCACACTGCGTCAGCACAGACAGGCTCCACATGGACCCGGCTG**
71 **A R C L C P H C V S L Q T G S H M D P L** 119
298 **GGCAAACCTCGTCCCACTTACCAACAGACGGTCTTCTAACGGGCCATGCCATGGC**
91 **G N S V P L Y H N Q T V F Y R R P C H G** 139
358 **GAGGAAGGTACCCATGCCGCTACTGCTTGGAGGCCAGGCTTACCGAGTCTCCCTGGCT**
111 **E E G T H R R Y C L E R R L Y R V S L A** 159
418 **TGTGTGTGTGGCCCGGGTCAATGGCTTAGTCATGGCTCACCAACCTGCTGAGGCTGA**
131 **C V C V R P R V M A *** 170
478 **C V C V R P R V M A ***
160 **TGCCCGGTTGGAGGAGGGCCAGGGTACAATCACCTGCCAATGCCATTGGGGTTCAA**
538 **GCCCTCCAAAGCCCTACCTGAAGCAGGCCACTTGGAGGACTTGGGAG**
598 **AAACTCTGACTTTGCACCTGGAAAGCACTTTGGAGGAGCAGGTCCGCTTGTGC**
658

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Figure 2B

718 TGCTAGAGGATGCTGTTGGCATTCTACTCAGGAACGGACTCCAAAGGCCCTGCTGACC
778 CTGGAAAGCCATACTCCCTGGCTCCCTGAATCCCCAAACTCCCTGGCACAGGCACCTT
838 TCTCCACCTCTCCCCCTTGCCCTTGTGTTGTGTTGGCATGCCAACTCTGGCGTGC
898 AGCCAGGTGTAATTGCCTGTGAAGGATGGTCTGAGGTAAAGCTGTTATCGAAAGTGAAG
958 AGATTATCCAAATAAACATCTGTGTTAAAAAAA 1496

Map of Non-Secreted Form of Mouse IL-17 Like cDNA (SEQ ID NO: 9), and
Corresponding Amino Acid Sequence (SEQ ID NO:10)

1 CCGGGCAGGTGCCCTGGCGCTCCAAAGCTTAGGGAAGCTCCAGGTGTCCTGGAAAT
61 GAAGAAAAGGCCACCGAGCAAAAGAACAGAGAACAGAACAGAACAGAACAGAACAG
121 GCCTAGGGTCGAGGGCCATTATCACCTACAAATCAGAACATGTCAGGAGTGCCTATTCTAGAGG
181 TCTCCATCTTGCCTATTGCTGGGTGCCTACAGCAGGTGCTGACCTCTGGTTGTCATGGGCAATTGCCA
241 AGAACAGCTTCTGCTTACAGCAGGTGCTGGCTTCCCTCTGGCTGGTACAGAGGACAGGGAAAGGAA
301 TTCCAGCCCCGGTTGGCTGCCAGGGCTTCCCTCTGGCTGGTACAGAGGACAGGGAAAG
361 AAACCCAAATGTCCTATGAAAACAATGTCCCCGTCAATCCAGGCCAGATCATTCTGC
421 AGTGTCAACAGTGAGAACAGAACAGCTGGGTCAATTCTGTGCTTAAGAGTGCCTGTTCTGCTGTT
481 GCACTGCCAAGGCTGTGGCATTCTGGCAATGATGTCGGTGGAAACCCACACCGTCAGCTTG
541 CGGATCCAGGAGGCTGCACTTGCCAGCTGCTGCCAGCTGGCCAGAAAGCAAGAACCC
11 R I Q E G C S H L P S C C P S K E Q E P 30

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Figure 2C

601 CCGGAGGAGTGGCTGAAGTGGAGCTCTGCATCTGTGTCCCCCAGAGCCTCTGAGGCCAC
31 P E W L K W S S A S V S P P E P L S H 50
661 ACCCACCGCAGAATCCTGCAAGGCCAGCAAGGATGGCCCTCAAACAGCAGGGCCATC
51 T H H A E S C R A S K D G P L N S R A I 70
721 TCTCCTGGAGCTATGAGTTGGACAGGGACTTGAATCGGTCCCCAGGACCTGTACCAC
71 S P W S Y E L D R D L N R V P Q D L Y H 90
781 GCTCGATGCCCTGCTGCCCCACACTGGGTCAAGCAGACAGGCTCCACATGGACCCGCTG
91 A R C L C P H C V S L Q T G S H M D P L 110
841 GGAACTCCGTCCTTACCTTACCAACCACAGACGGTCTTACCGGGGCCATGCCATGGC
111 G N S V P L Y H N Q T V F Y R R P C H G 130
901 GAGGAAGGTACCCCATGGCGCTACTGGCTGGAGGCCAGGGCTTACCGAGTCTCCCTTGCT
131 E E G T H R R Y C L E R R L Y R V S L A 150
961 TGTGTGTGTGGCCCCGGGTCAATGGCTTAGTCATGCTCACCACTGCCTGAGGGTGA
151 C V C V R P R V M A * 161
1021 TGCCCGGTTGGAGAGGGCCAGGTGTACAATCACCTGCCAATGCGGGCGGGTCAA
1081 GCCCTCCAAGCCCTACCTGAAGCAGGCCAGGCTCCGGACAAAGATGGAGGACTTGGGAG
1141 AAACCTGACTT'TGCACTT'TGGAAAGGCACTTTTGCCTTCAACTCAGGAACGGACTCCAAGGCTGTGAC
1201 TGCTAGAGGATGCTGTTGGCATTTCTACTCAGGAACGGACTCCAAGGCTGTGAC
1261 CTGGAAAGCCATACTCCTGGCTCCTGAATCCCCAACCTCCCTGGCACAGGCACT
1321 TCTCCACACTCTCCCCCTTGCCTTGTGTTGCTGCATGCCAACCTCTGCCAGGCT
1381 AGCCAGGGTGTAAATTGCCTTGTGAAAGGATGGTTATCGAAAGTGAAG
1441 AGATTATCCAATAAACATCTGTGTTAAAAAAA 1496

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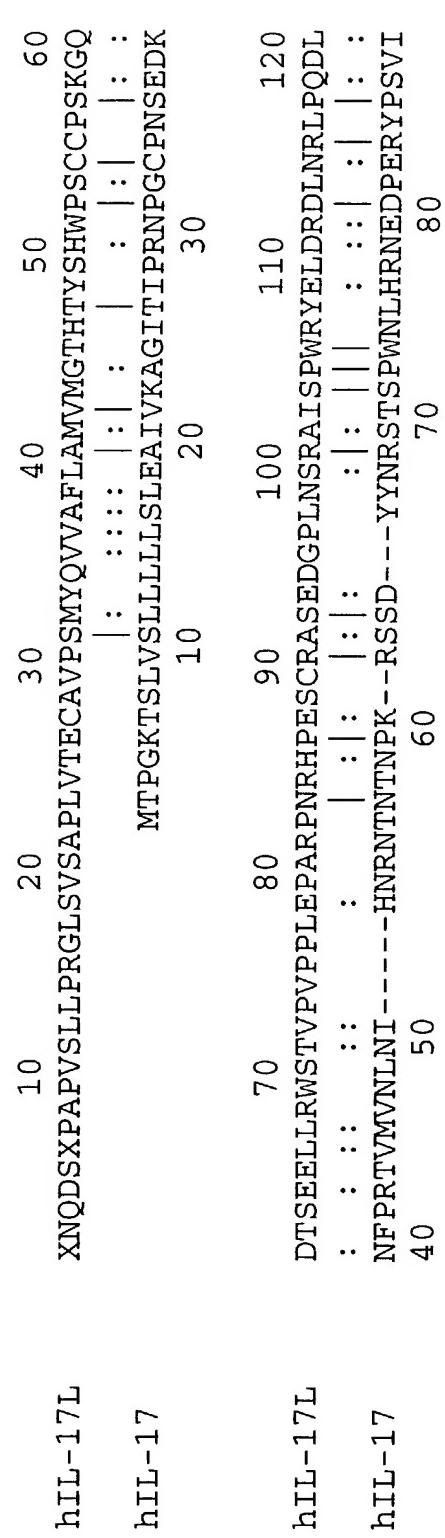


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Figure 3A

Pile-Up of Human IL-17 Like Amino Acid Sequence, hIL-17L (SEQ ID NO:2),
with a Known Human IL-17 Family Member Amino Acid Sequence, hIL-17
(SEQ ID NO:5)

Smith-Waterman score: 155; 25.0% identity in 160 AA overlap



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Figure 3B

130 140 150 160 170 180
YHARCLCPHCVS LQTGSSHMDPLGN SVPLYHNQTVFYRRPCHGEEGTHRRYCLERRLYRVS
::|:|::|:|::|:|::|:|:|:|:|:|:|:|:|:|:|:|:|:
WEAKCRHLGCIN--ADGNVDYHMNSVPIQQEILVLRRREPPHCPNS---FRLEKIL--VS
90 100 110 120 130 140

190
LACVCVRPRVMA
::|:|:|:|:
VGCTCVTPIVHHVA
150

hIL-17L
hIL-17
hIL-17

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Pile-Up of Human IL-17 like Amino Acid Sequence, hIL-17L, (SEQ ID NO:2) with a Known Human IL-20 Amino Acid Sequence, hIL-20 (SEQ ID NO:6)

SCORES Init1: 124 Initn: 124 Opt: 175
Smith-Waterman score: 175; 36.7% identity in 90 aa overlap

hIL-17L	RWSTVPPPLEPARPNRHPESSCRASEDGPLNSRAISPWRYELDRDLNRLPQDLYHARCLC RNIEEMVAQLRNSSELAQRKCEVNQLWMSNKRSLSWPWGYSINHDPSRIFPVDLPEARCLC	70 80 90 100 110 120 70 80 90 100 110 120
hIL-17L	PHCVSLQTGSHMDPLGNNSVPLYHNQTVFYYRRPCHGEEGTHRRCYCLERRLYRVSLA-CVCV LGCVNPFTMQE-DRSMVSVVF-SQVPVRRRLCPPPPRTGP--CRQRRAVMETIVAGCTCI	130 140 150 160 170 180 130 140 150 160 170 180
hIL-20		
hIL-20		

190 RPRVMA

nLL=20

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Figure 5
Pile-Up of Human IL-17 Like Amino Acid Sequence, hIL-17L, (SEQ ID NO:2)
with a Known Human IL-17 Amino Acid Sequence, hIL-17b (SEQ ID NO:7)
Family Member

SCORES Init1: 124 Initn: 124 Opt: 178
Smith-Waterman score: 178; 35.6% identity in 90 aa overlap

hIL-17L	70	80	90	100	110	120
	RWSTIVPVVPPLEPARPNRHPESCRASEDGPLNSRAISPWRYELDRDLNRLPQDLYHARCLC					
hIL-17b		RNIEEMVAQLRNSSELAQRKCEVNQLWMSNKRSLSPWGYSINHDPSRIPVDSLPEARCLC				
	70	80	90	100	110	120
hIL-17L	130	140	150	160	170	180
	PHCVSLQQTGSHMDPLGNNSVPLYHNQTVFYRRPCHGEEGTHRYCLERRLYR-VSLACVCV					
hIL-17b		LGCVNPFMQE-DRSMVSVPVF-SQVPVRRRLCPPPRTGP--CRQRAVMETIAVGCTCI				
	130	140	150	160	170	180
hIL-17L			190	RPRVMA		
hIL-17b			180			

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Pile-Up of Human IL-17 Like Amino Acid Sequence, hIL-17L, (SEQ ID NO:2) with Amino Acid Sequence of a Known Human IL-17 Family Member, hIL-17c (SEQ ID NO:8)

SCORES Init1: 149 Initn: 194 Opt: 236

Smith-Waterman score: 243; 34.5% identity in 171 aa overlap

hIL-17L	GLSVSAPLVTECAVPSMYQVVAFIAMVMGHTYSHW-PSCCP SK---GQDTSEELLR--	20	30	40	50	60	69
hIL-17C	MTLLPGLLFLTWIHTCLAAHDPSLIRGHPHGTPHCYSAEELPLGQAPPHLARGA	10	20	30	40	50	
hIL-17L	-WS-TV PVP---PLEPARP-NRH---PES---C---RASE---DGPLNSRAIS PWR YIELD RD	70	80	90	100	110	
hIL-17C	KWGQALPVAVSSLEAA SHRG RHERPSATTQCPVLRPEEVLEADTHQR SIS PWR YRV DTD	60	70	80	90	100	110

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Figure 6B

120 130 140 150 160 169
LNRLPQDLYHARCLCPHCVSLQQTGSHMDPLGNNSVPLYHNQTVFYRRPCHGEEG---THR
:| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :|||
EDRYPQKLAFAECLCRGCIDARTGRETAA-NSVRLLQSLLVLRRPC-SRDGSGLPTPG
120 130 140 150 160 170

170 180 190
RYCLERRLYRVSSLACVCVRPRVMA
:||| :||| :||| :||| :||| :|||
AFAFHTEFIHVPGCTCVLPRSV
180 190

hIL-17L hIL-17C hIL-17L hIL-17C

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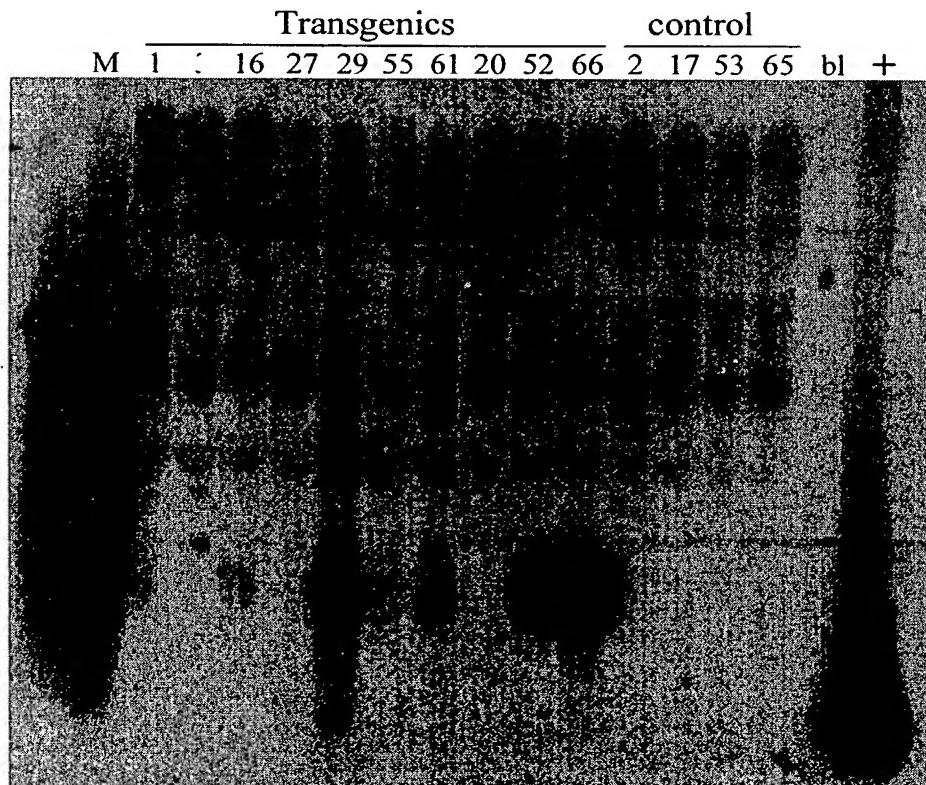
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Northern Blot Expression Analysis of TH00-018 Necropsied Transgenic Founders



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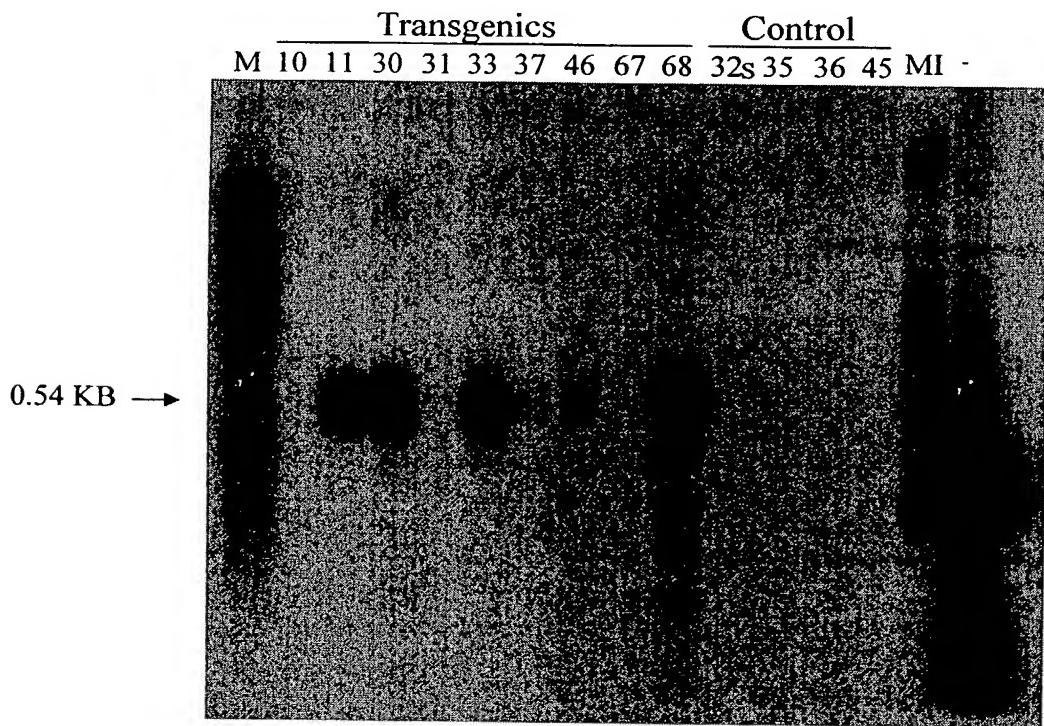


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Figure 8

Northern Blot Expression Analysis of TH00-018 Hepatectomized Transgenic Founders



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Figure 9

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Non-Transgenics IL-17E Transgenics

A



Lymph Node

B



C



Lymph Node B220 2x

E



Lymph Node F4/80 2x

F



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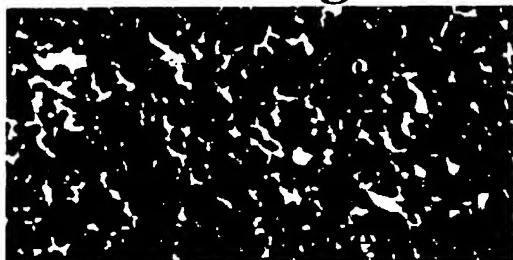
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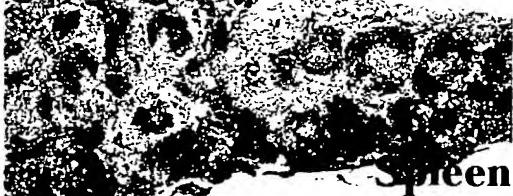
Figure 10

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Non-Transgenics



C



E



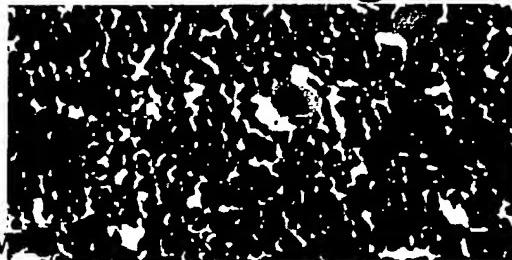
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H



IL-17E Transgenics



D



F



I



J



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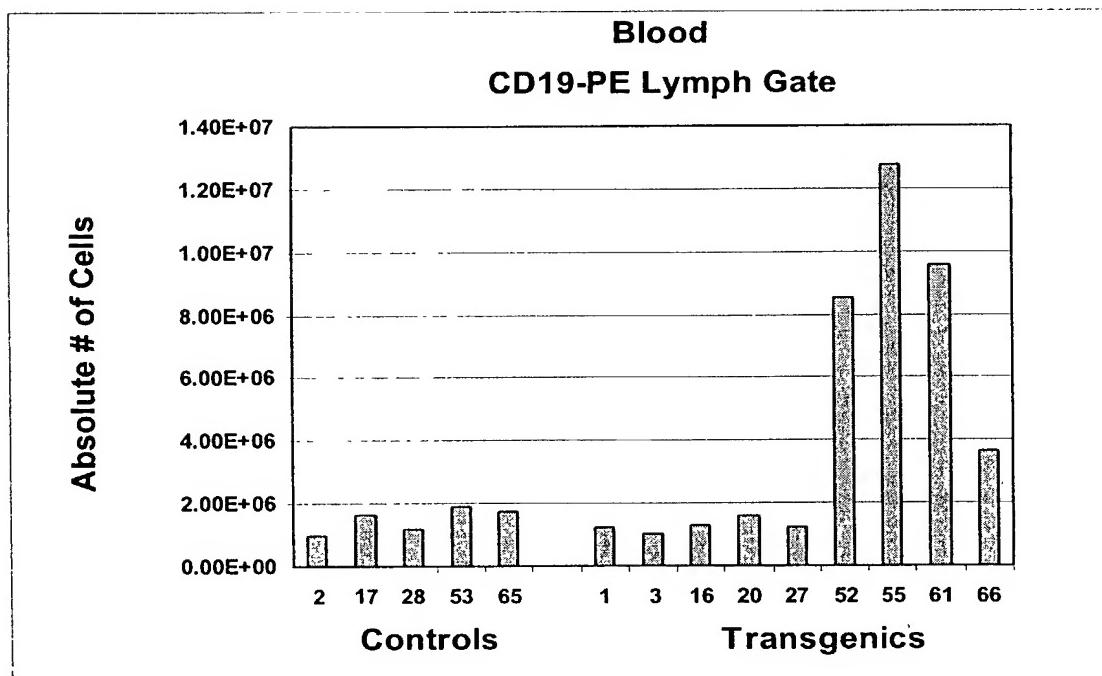
A circular stamp with the word "OPIE" at the top and "JCA1" on the right edge. The date "AUG 22 2002" is in the center. The bottom arc contains the text "ENT & TRADEMARK OFFICE".

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Figure 11



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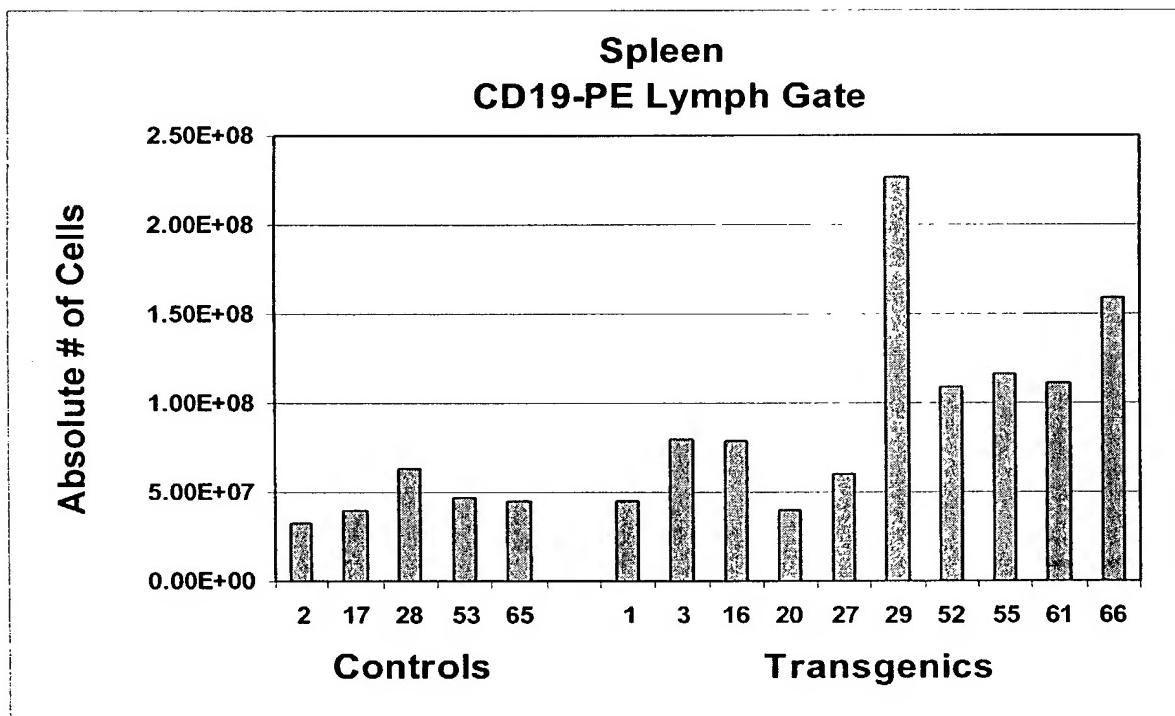
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Figure 12



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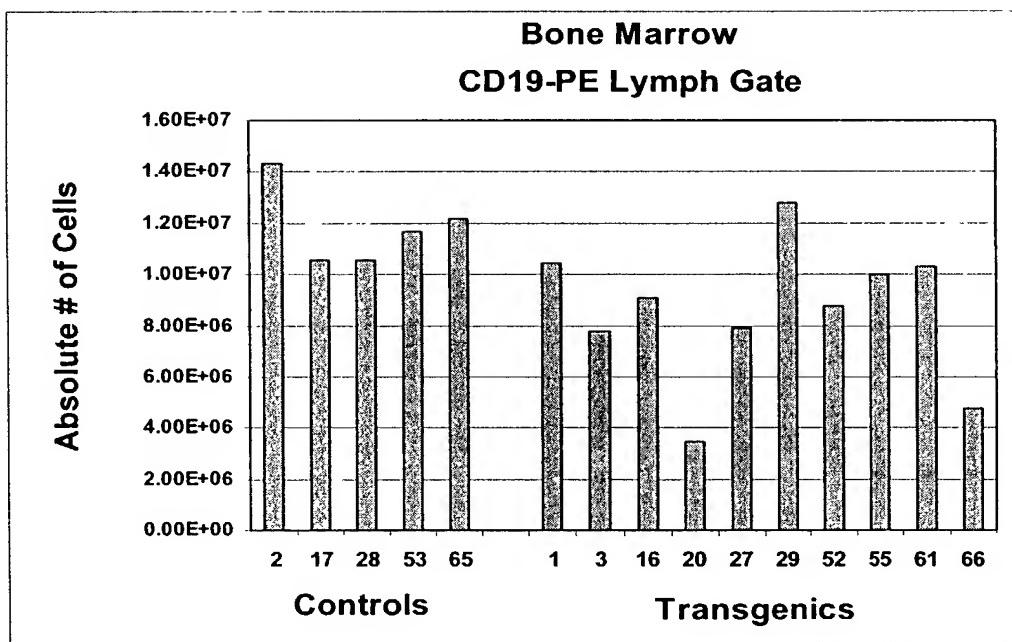
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Figure 13



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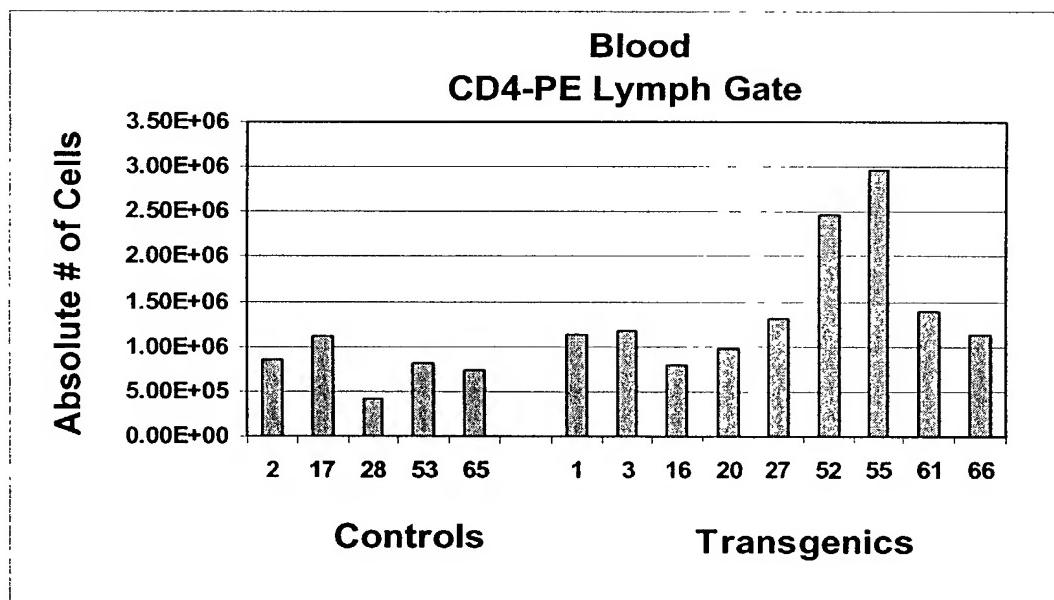
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Figure 14

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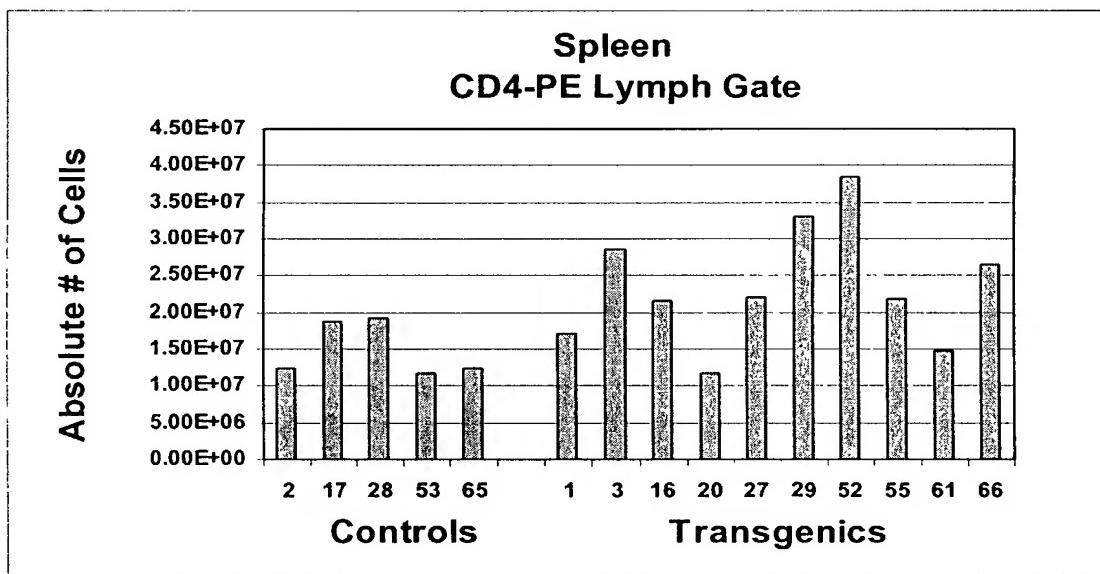
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Figure 15



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Figure 16

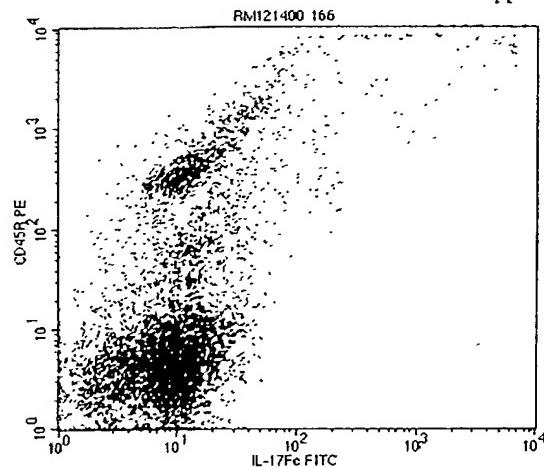
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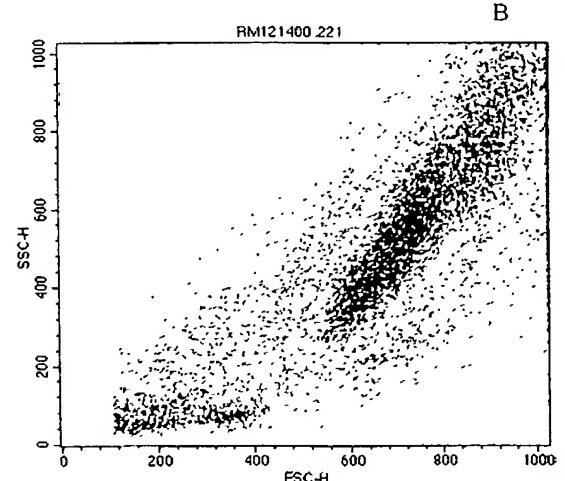
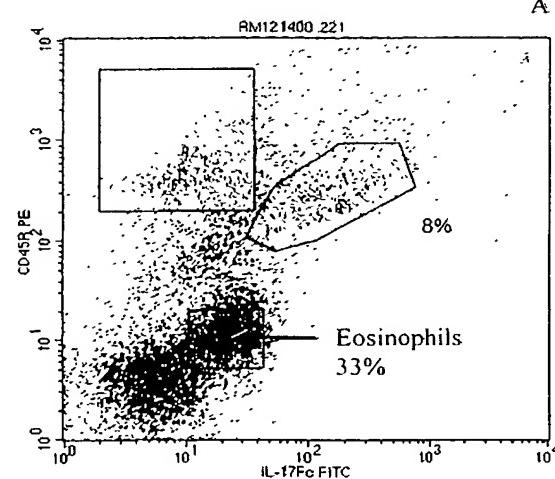
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CD45R+ CELLS EXPRESSING IL17Br IN
TRANSGENIC BONE MARROW

Control



Transgenic



Granulocyte-like
cells

Eosinophil-like cells

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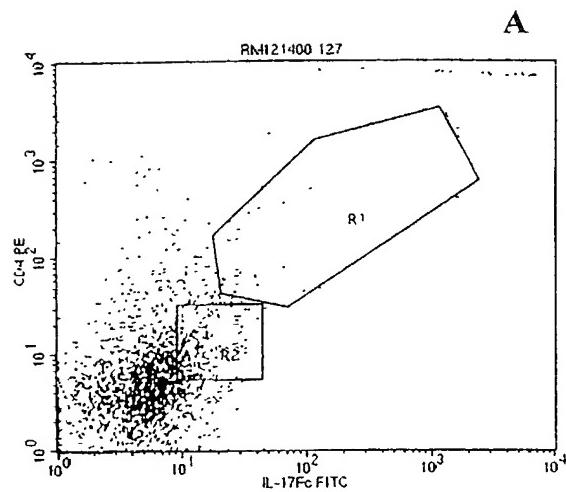
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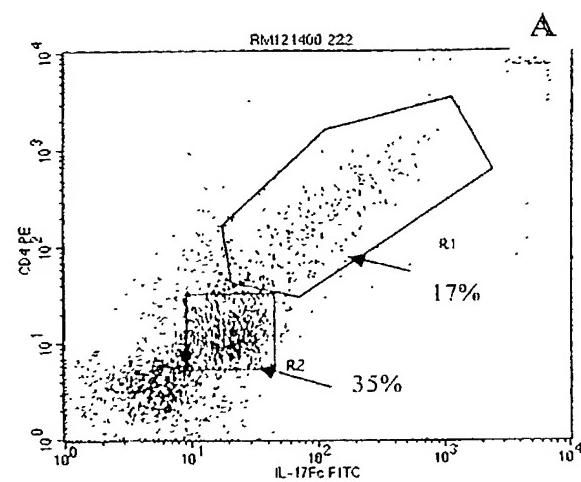
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Figure 17

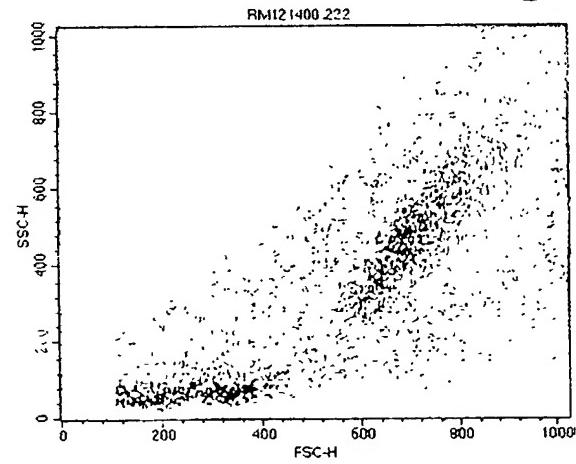
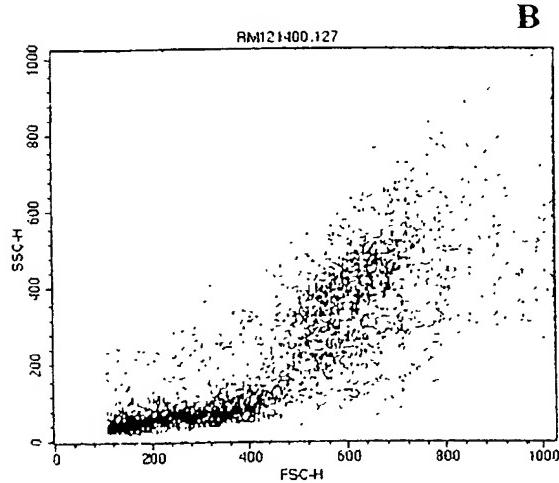
CD4+ CELLS EXPRESSING
IL17Br IN TRANSGENIC BONE
MARROW



CONTROL



TRANSGENIC



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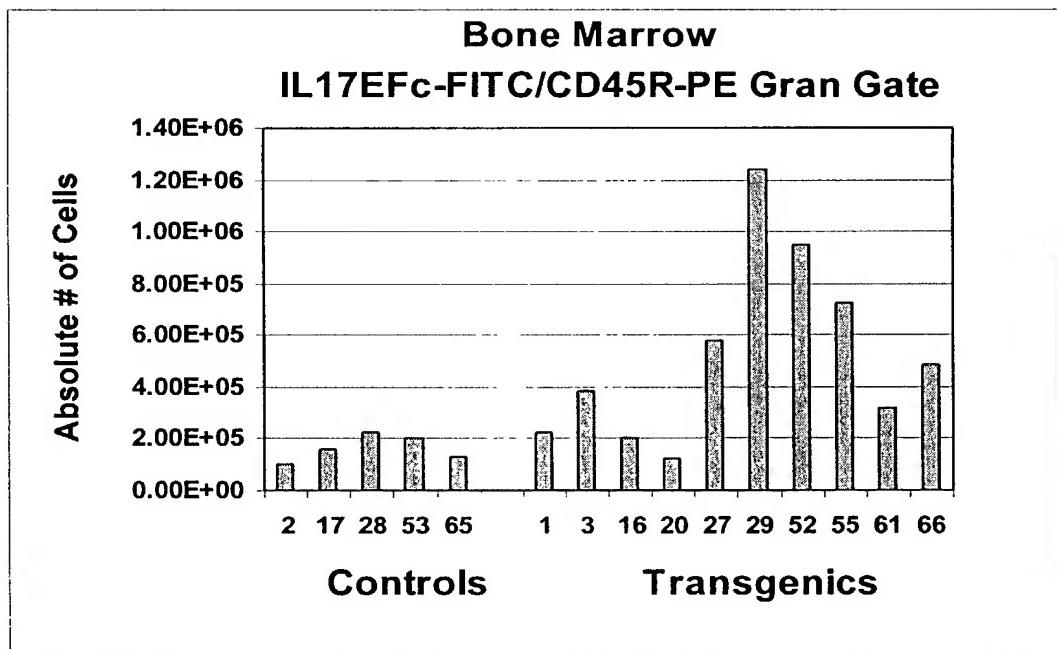
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Figure 18



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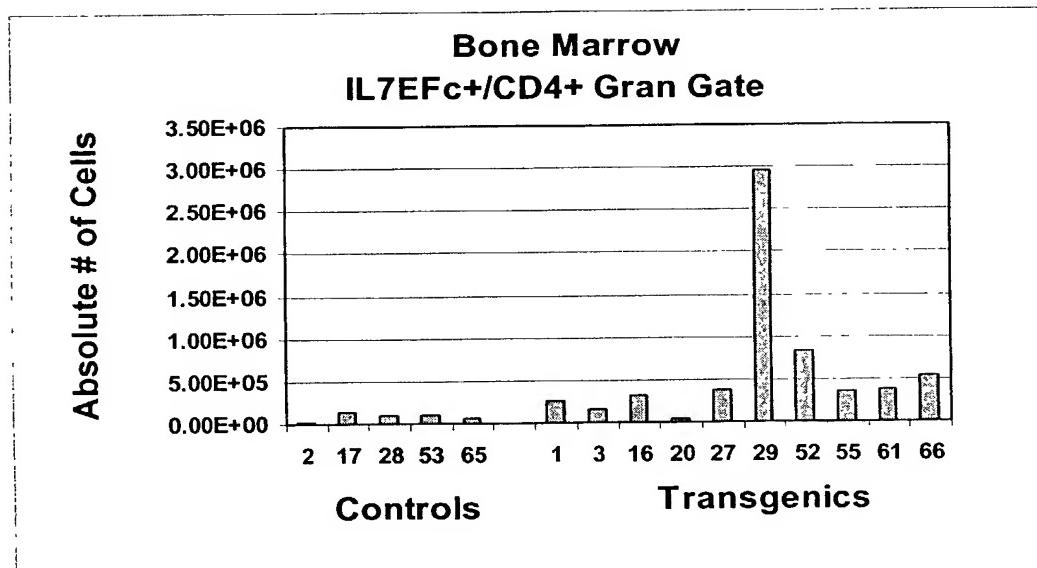
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Figure 19

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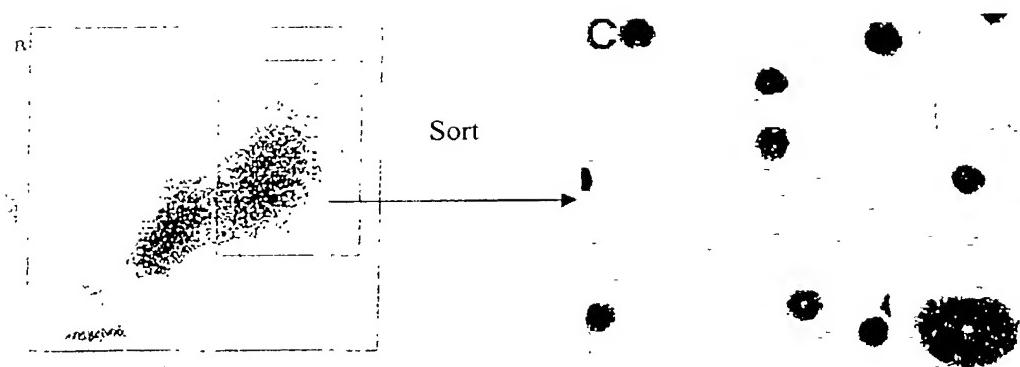
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Figure 20



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Figure 21A

Non-transgenic Control

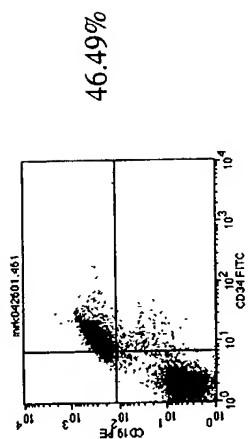
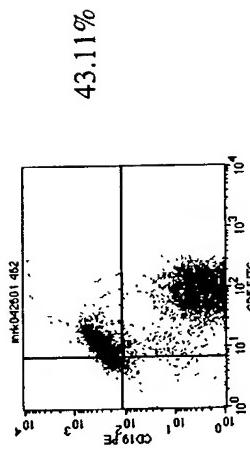
CD5+ on CD19+ Lymphocytes in Lymph Node



CD34+ on CD19+ Lymphocytes in Lymph Node



Transgenic



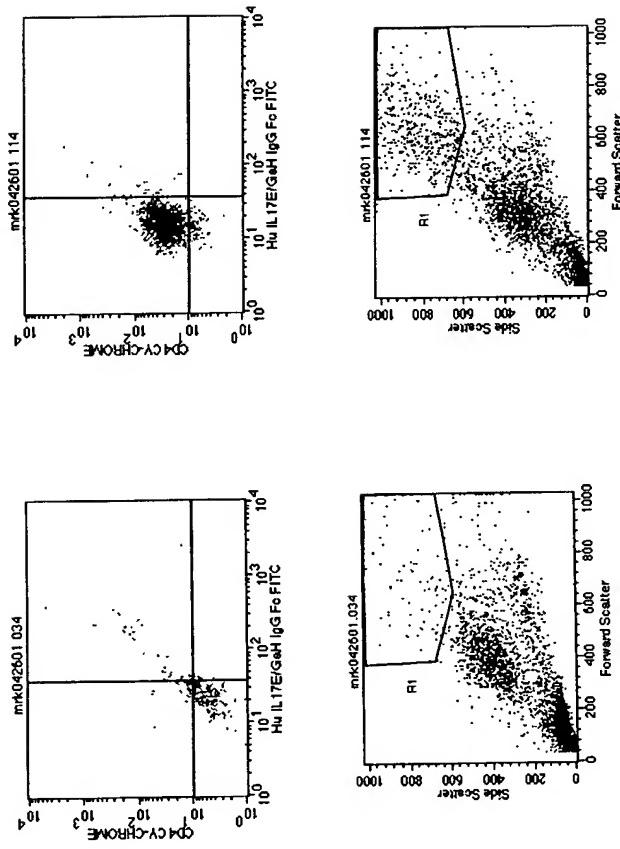
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Figure 21B
CD4 Expression on Eosinophils in Bone Marrow



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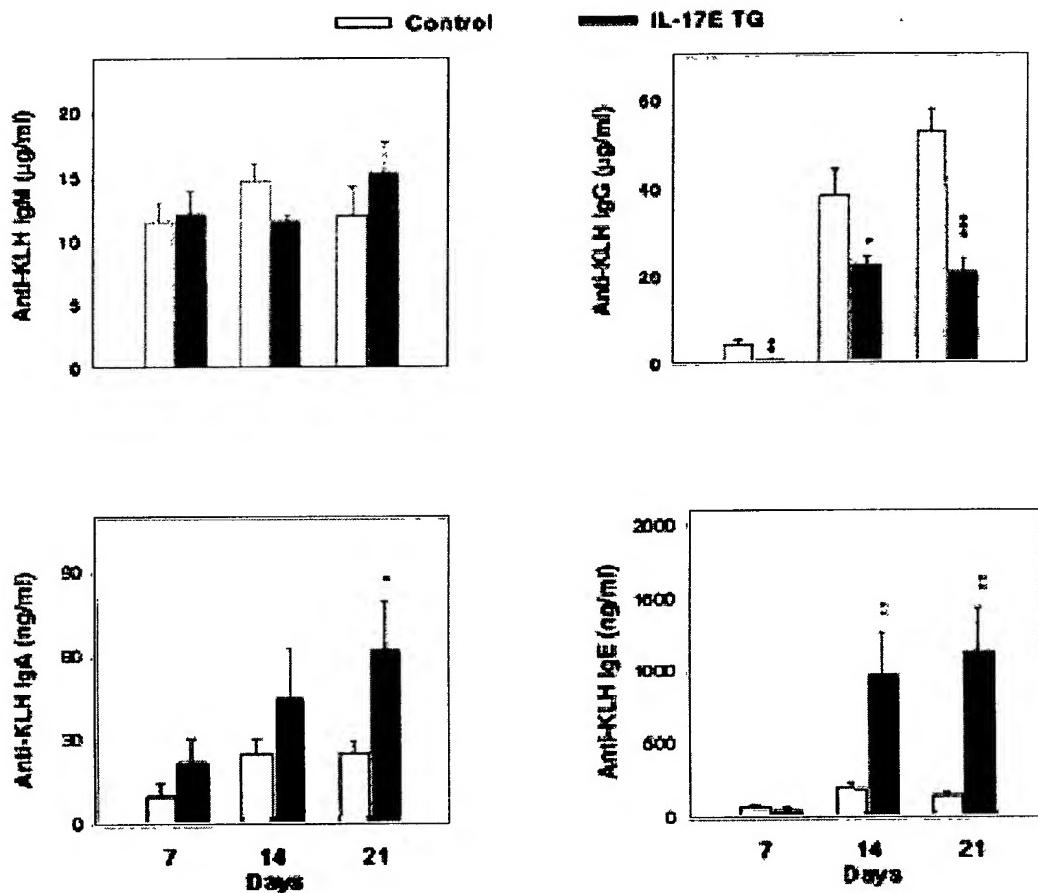


FIG.22

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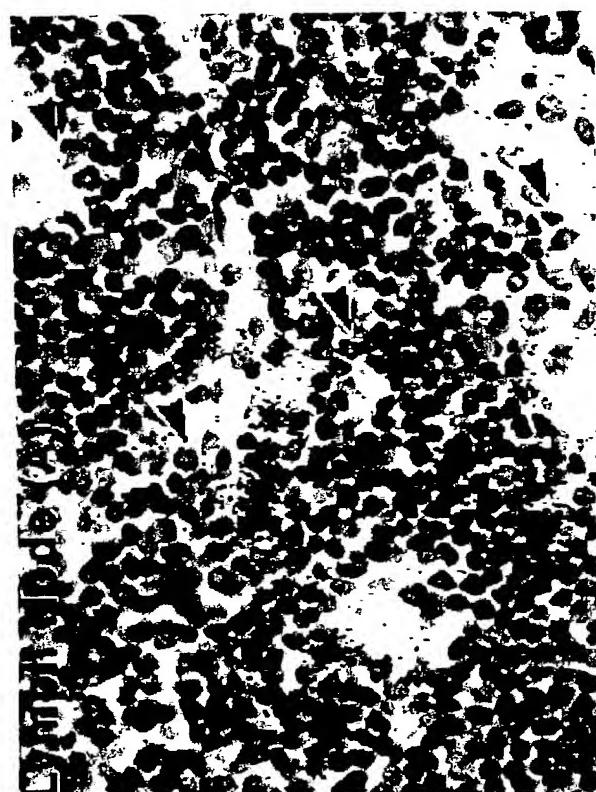
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FIG.23